

ABSTRACT OF THE DISCLOSURE

A flexible automated apparatus for isolating and purifying viruses, proteins and peptides of interest from a plant material is disclosed, the apparatus being applicable for large scale purification and isolation of such substances from plant material. The flexible automated apparatus provides an efficient apparatus for isolating viruses, proteins and peptides of interest with little waste material. The automated apparatus for isolating viruses, proteins and peptides of interest includes a grinding apparatus for homogenizing a plant to produce a green juice, a means for adjusting the pH of and heating the green juice, a means for separating the target species, either virus or protein/peptide, from other components of the green juice by one or more cycles of centrifugation, resuspension, and ultrafiltration, and finally purifying virus particles by such procedure as PEG-precipitation or purifying proteins and peptides by such procedures as chromatography and/or salt precipitation.